

2016

# Annual Report 2015

Bay Area Air Quality Management District

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## Recommended Citation

Bay Area Air Quality Management District, "Annual Report 2015" (2016). *California Agencies*. Paper 461.  
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BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

# TOGETHER

Creating a  
Clean Air Future

ANNUAL REPORT

# 2015



The Bay Area Air Quality Management District is the public agency responsible for protecting air quality in the nine counties that surround San Francisco Bay:

*Alameda  
Contra Costa  
Marin*

*Napa  
San Francisco  
San Mateo*

*Santa Clara  
Southwestern Solano  
Southern Sonoma*

Our mission is to protect and improve public health, air quality and the global climate.

#### OUR JURISDICTION

- ◆ METEOROLOGICAL SITES
- AIR MONITORING SITES
- METEOROLOGICAL + AIR MONITORING SITES





LETTER FROM THE  
EXECUTIVE OFFICER

In 2015, the Bay Area Air District **celebrated 60 years of service to the region** by improving air quality and public health throughout the nine counties that surround the Bay and reaffirmed our commitment as a climate leader.

This past year, the Air District began preparing a Regional Climate Protection Strategy as part of the 2016 Clean Air Plan, which will establish a plan of action toward aggressive long-term greenhouse gas reduction goals.

We completed a consumption-based greenhouse gas emissions inventory and launched a monitoring network that will track trends in GHGs and provide details about Bay Area sources. This data will allow us to pinpoint areas where greater emission reductions can be achieved in the coming period.

To help us reduce wintertime pollution, we updated the Air District's wood-burning regulation. The amended rule will prohibit wood-burning devices from being installed in new building construction throughout the nine counties. Later this year, we will launch a wood stove change-out program that will assist Bay Area households in moving to cleaner, more efficient heating devices.

At the end of 2015, our Board of Directors unanimously adopted Regulation 6-5, that requires reduction of harmful PM2.5 from refinery equipment. The Board also amended Regulations 11-10 and 8-18 that strengthen leak detection and require expedited repairs of refinery equipment.

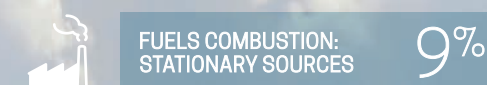
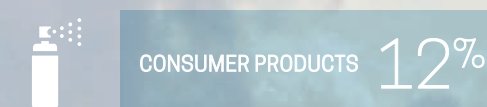
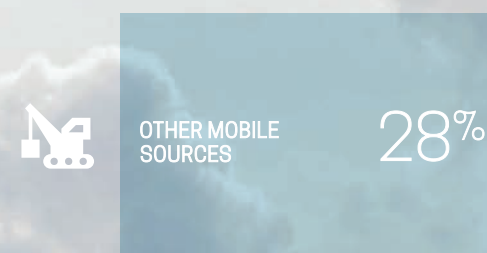
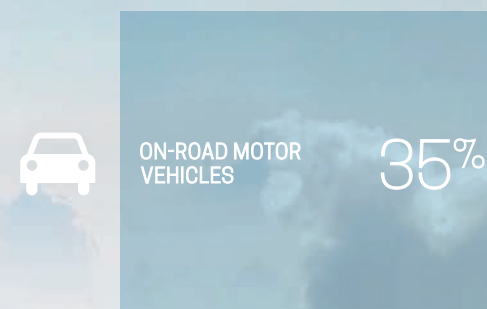
We have continued to fulfill our core duty of enforcing air quality regulations, issuing permits, and forecasting and monitoring air quality throughout the region.

As the Air District's Executive Officer, I am proud of our work protecting the health of Bay Area residents and leading the way toward a clean air future. I hope you enjoy this review of our work over the past year.

  
JACK P. BROADBENT  
Executive Officer  
Air Pollution Control Officer

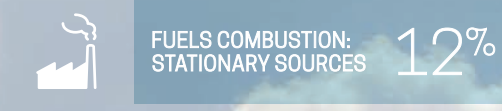
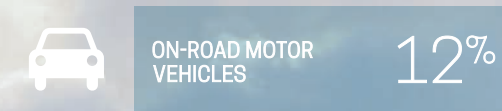
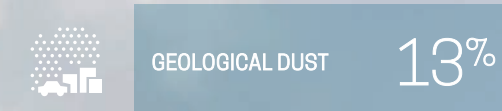
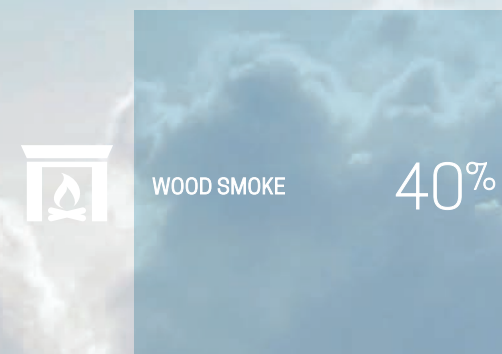
## Summer Sources

of Bay Area Ozone-Forming Pollutants (2015)



## Winter Sources

of Bay Area Fine Particulate Pollution (2015)







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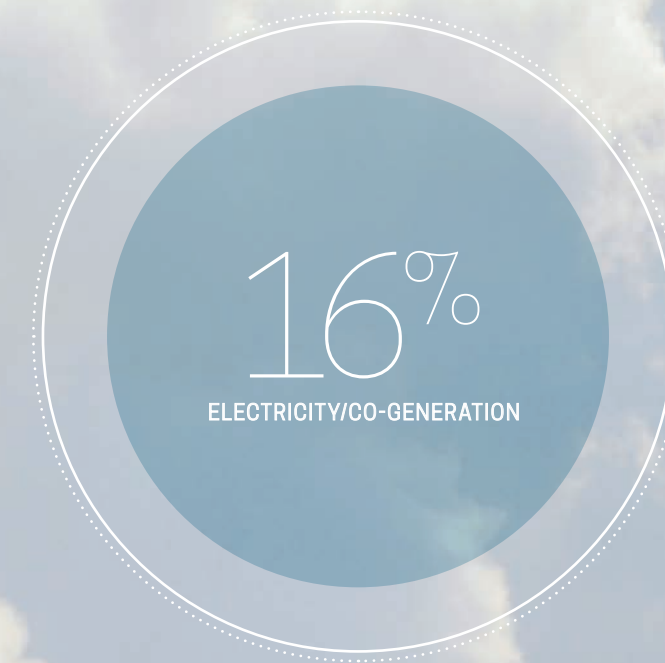
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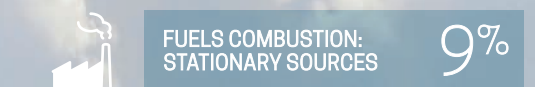
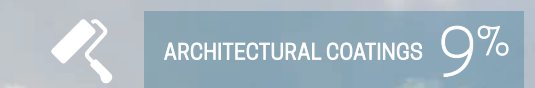
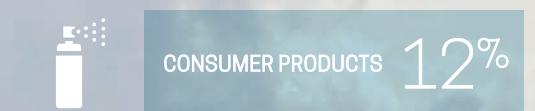
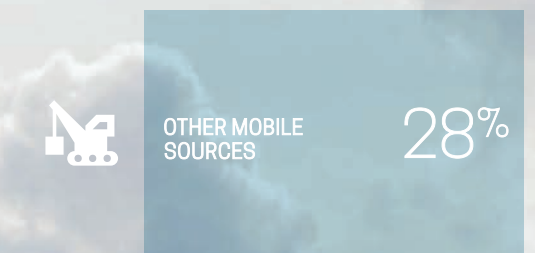
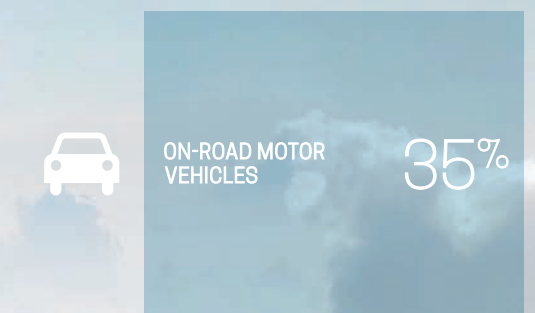
## Bay Area Sources of Greenhouse Gas Emissions\*

\*Total does not add up to 100% due to rounding.



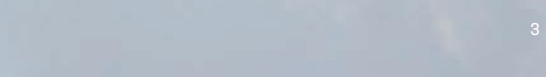
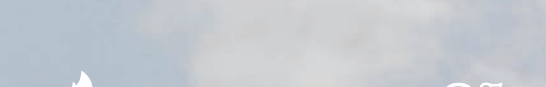
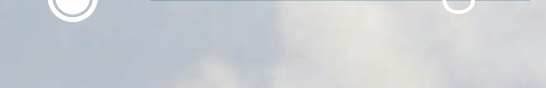
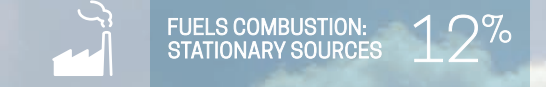
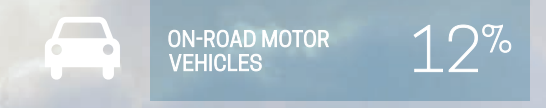
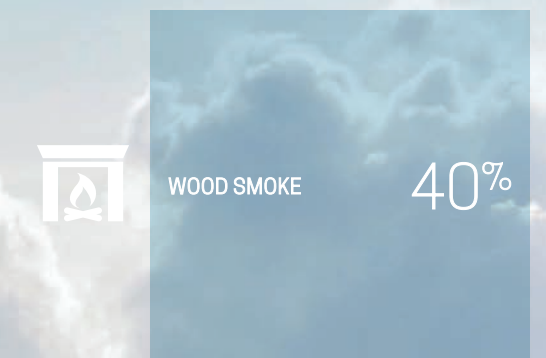
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# Extended Outlook



## 2016 Clean Air Plan

Last year, the Air District began work on the 2016 Clean Air Plan, detailing the agency's efforts over the next few years to reduce air pollution and protect public health and the global climate. The plan will also include the Bay Area's first ever comprehensive Regional Climate Protection Strategy, which will identify potential rules and strategies that the Air District can pursue to reduce greenhouse gases in the region.



## Climate Protection Program

In 2015, the Air District stepped up its commitment to be a climate leader by establishing a new, distinct Climate Protection Section within the Planning Division. This section will coordinate the Air District's climate protection activities throughout the Air District. Staff began preparing a Regional Climate Protection Strategy as a key element of our 2016 Clean Air Plan. The Regional Climate Protection Strategy—to be finalized in 2016—will identify actions the Air District will undertake to help achieve aggressive long-term greenhouse gas reduction goals for the Bay Area established by the Board of Directors.



## Consumption-Based Greenhouse Gas Inventory

In 2015, the Air District completed a consumption-based greenhouse gas emissions inventory, which estimates the amount of GHGs emitted anywhere in the world by the production of goods and services consumed by Bay Area residents. Also in 2015, the agency launched a greenhouse gas monitoring network that will track trends in GHGs over time and provide detailed information about Bay Area sources of GHGs. This network will be expanded in 2016. The consumption-based inventory and the GHG monitoring network provide information to support technical programs, public engagement campaigns and other initiatives summarized in the Regional Climate Protection Strategy.



## Refinery Rule and Emissions Reduction Strategy

In December 2015, the Air District adopted one rule and two rule amendments as part of a new effort to tighten air pollution controls on petroleum refining activity in the Bay Area. The recent amendments are the first step in implementing the Air District's Refinery Emissions Reduction Strategy, which will reduce emissions from Bay Area refineries by as much as 20 percent by 2020.

Three additional refinery rules are moving through the public review process and will be considered by the Air District Board later in 2016.



## Wood Burning Rule and Wood Stove Change-Out Program

In October 2015, the Air District adopted a set of strong new amendments that significantly improve the agency's wood-burning regulation, which is designed to safeguard public health against the hazards of fine particle pollution. Among other provisions, the amended rule will prohibit wood-burning devices from being installed in new building construction.

In February 2016, the Air District approved \$3 million for a fireplace and wood stove change-out program to provide cleaner, more efficient heating devices for nearly 1,300 households. Increased funding will be available for low-income households.



## James Carey Smith Community Grants

In January 2016, the Air District awarded more than \$250,000 to 11 community-based partnership projects within the nine-county Bay Area region. These projects will increase awareness about air quality issues and initiate activities to reduce air pollution. Ten of the selected projects are located in Bay Area communities—identified through the Air District's Community Air Risk Evaluation, or CARE, program—that experience concentrated air pollution and related public health impacts.



## Clean Air Vehicle Incentives and Infrastructure Expansion

In May 2015, the Air District approved the allocation of \$14 million in funding for programs that promote and accelerate plug-in electric vehicle, or PEV, usage in the Bay Area. The funds support the expansion of charging stations at workplaces, multi-unit dwellings, transportation corridors and at key destinations. The funding facilitates clean air vehicle leasing for government agencies, and provides incentives for operators of light-duty vehicle fleets and heavy-duty vehicles and buses to purchase clean air vehicles.

In May 2015, the Air District awarded \$2.2 million in funding for the completion of 12 new hydrogen refueling cell stations in the Bay Area. All 12 hydrogen stations are scheduled to be in service in 2016.



## Caltrain Electrification Project

In July 2015, the Air District approved the allocation of \$20 million to help fund the electrification of the Caltrain corridor. Key benefits associated with electrifying the 51 miles of rail line between San Francisco and San Jose include a reduction of greenhouse gases, increased frequency and speed of train service, reduced engine noise and reduced traffic congestion from automobiles. Caltrain expects to start operating the electric trains by the winter of 2020.



## Zero-Emission Airport Equipment

In March 2015, the Air District awarded \$2.5 million to United Airlines, Inc. to fund the replacement of 87 diesel-powered ground support equipment units with zero-emission alternatives at the San Francisco International Airport. This is the largest Air District grant issued for purchasing zero-emission airport equipment in the Bay Area and replaces old, diesel-powered aircraft tow/tug vehicles with electric, zero-emission equivalents.



## Agricultural Waste Chipping Program

In 2015, the Air District began sponsoring no-charge chipping services to dispose of agricultural waste material in lieu of open burning for qualifying agricultural operations located within the Bay Area. Chipping materials from orchards, vineyards and other agricultural enterprises reduces unhealthy fine particle emissions. The program was renewed in 2016 with a budget of \$150,000 and will continue through December 31, 2016, or until funds are exhausted, whichever occurs first.



# Grant Programs

## Carl Moyer Program/ Mobile Source Incentive Fund (MSIF)—2015

Total Funds Awarded	\$19.3M
Number of Engines Covered by Grant Projects	255
<i>Estimated Lifetime Emissions Reduction for the Projects Funded (tons)</i>	
Reactive Organic Gases (ROG)	50
Oxides of Nitrogen (NOx)	384
Particulate Matter (PM10)	18
<b>TOTAL</b>	<b>452</b>

## Goods Movement Program—2015

Total Funds Awarded	\$8.1M
Number of Engines Covered by Grant Projects	199
<i>Estimated Lifetime Emissions Reduction for the Projects Funded (tons)</i>	
NOx	658
PM10	6
<b>TOTAL</b>	<b>664</b>

## TFCA Regional Fund Grants—2015

Total Funds Awarded	\$10.9M
Number of Projects/Programs Awarded Grants	67
<i>Estimated Lifetime Emissions Reduction for the Projects Funded (tons)</i>	
ROG	41.43
NOx	52.61
PM10	42.10
<b>TOTAL</b>	<b>136.14</b>
Carbon Dioxide (CO <sub>2</sub> )	85,151.70

## TFCA County Program Manager Fund Grants— FYE 2015

Total Funds Awarded	\$11.4M
Number of Projects/Programs Awarded Grants	64
<i>Estimated Lifetime Emissions Reduction for the Projects Funded (tons)</i>	
ROG	59.09
NOx	52.61
PM10	50.76
<b>TOTAL</b>	<b>162.46</b>
CO <sub>2</sub>	88,427.68

## Lower Emission School Bus Program—2015

Bus Replacements, Retrofits and CNG Tank Replacements (MSIF funds)	
Total Funds Awarded	\$2.6M
Number of Buses Awarded Grants	63

## Vehicle Buy Back Program—2015

Total Funds Awarded	\$6.5M
Number of Vehicles Scrapped in 2015	6,139
<i>Estimated Lifetime Emissions Reduction for the Projects Funded (tons)</i>	
ROG	319
NOx	229
PM	3
<b>TOTAL</b>	<b>551</b>

# Legislation and CARE Program



## 2015 Legislative Summary

One critical piece of legislation that directly affects the Air District was SB 513, authored by Senator Jim Beall and sponsored by the California Air Pollution Control Officers Association. This bill provides modernization to the Carl Moyer and AB 923 incentive programs that the Air District administers.

The bill expands project categories for both programs, allows the Carl Moyer program to adapt to future clean technologies, and establishes a process to adjust the outdated cost-effectiveness limit—including for projects providing co-benefits such as greenhouse gas reductions or air quality improvements in the most polluted communities. It encourages leveraging with other funding sources, and streamlines and updates administrative requirements. This bill was signed into law by the governor in October.

Two other bills supported by the Air District were passed by the legislature with significant modifications and signed into law:

- SB 350 (De Leon), which increases the renewable portfolio standard to 50 percent renewables by 2030 (the current RPS is 33 percent by 2020), and increases the energy efficiency of existing buildings by 50 percent by 2030. A third provision, calling for cutting petroleum use by 50 percent by 2030, was eliminated.
- AB 1288 (Atkins), adds two new seats to the Air Resources Board. The new board members will essentially represent environmental justice communities. Key components of the bill were cut that would have extended ARB's authority to implement cap-and-trade programs beyond 2020 and to direct cap-and-trade revenues into disadvantaged communities after 2020.

SB 773 (Allen), sponsored by the Air District did not pass the legislature this year, but is eligible to be heard in 2016. The bill would allow for a University of California study of the effect of unregistered and out-of-state vehicles on air quality and lost revenue.

Six other bills supported by the Air District failed to pass, including SB 32 (Pavley), which was a bill to extend AB 32 beyond 2020 and essentially require that California achieve 1990 levels of greenhouse gas emissions by 2020. The bill failed to pass the Assembly floor, but an amended version can be considered in 2016.

None of the 10 bills that the Air District opposed in 2015 became law, many of which would have limited or constrained California's efforts to cut greenhouse gas emissions or to implement existing programs to cut air pollution.



## Community Air Risk Evaluation (CARE) Program 2015 Accomplishments

In 2015, the Air District began developing updated and refined air pollution emission estimates for detailed modeling of fine particulate matter concentrations and community health risk from nearby pollution sources. These updated emissions can be used to:

- Map areas with higher pollution impacts
- Support Planning Healthy Places guidance
- Update and develop Community Risk Reduction Plans

In recent years, advancements in air quality monitoring technology have enabled exciting opportunities to conduct detailed, localized air quality studies. The Air District is collaborating with researchers from the University of Washington to measure near-roadway pollution levels in Oakland and with researchers from UC Berkeley to install networks of devices in Oakland and San Francisco to map air pollution levels and help track greenhouse gas trends. In 2016, Air District staff will continue to collaborate with air quality researchers and community members to investigate and implement networks of air quality sensors to improve our understanding of local air quality conditions.



# 2015 by the Numbers

REVENUE	
Permit-Related Revenue	55%
County Property Tax	35%
Federal Grants	6%
State and Other Grants	4%
EXPENDITURES	
Personnel	70%
Services and Supplies	23%
Capital Outlay	7%
BAY AREA AIR QUALITY	
<i>2015 Exceedances of Air Quality Standards</i>	
OZONE	
Days over National 8-Hour Standard	5
Days over California 1-Hour Standard	4
Days over California 8-Hour Standard	11
PARTICULATE MATTER	
Days over National 24-Hour PM10 Standard	0
Days over California 24-Hour PM10 Standard	1
Days over National 24-Hour PM2.5 Standard	9
RULEMAKING ACTIVITY	
<i>2015 Rules Adopted or Amended</i>	
JUNE 3, 2015	
Regulation 3: Fees—amendments adopted	
DECEMBER 16, 2015	
Regulation 6, Rule 5: Cooling Towers adopted	
Regulation 8, Rule 18: Equipment Leaks—amendments adopted	
Regulation 11, Rule 10: Cooling Towers—amendments adopted	
PERMITTING ACTIVITY	
BAY AREA PERMITTED FACILITIES	
Refineries	5
Major Facilities Excluding Refineries	84
Gasoline Dispensing Facilities	2,365
All Other Facilities	8,860
TOTAL	11,314
Permitted Devices and Operations	25,487
NEW PERMIT APPLICATIONS	
Major Source Review (Title V)	54
New Source Review (NSR)	993
TOTAL	1,047

HEALTH RISK SCREENING ANALYSES	
Diesel Engines	236
Gasoline Dispensing	7
Other Commercial/Industrial	61
TOTAL	304
COMPLIANCE AND ENFORCEMENT ACTIVITY	
2015 COMPLIANCE INSPECTIONS	
Source Inspections	7,218
Air Pollution Complaints (Excluding Smoking Vehicles)	9,753
Gasoline Dispensing Facility Inspections	707
Asbestos Inspections	1,860
Reportable Compliance Activities	451
Diesel Compliance and Grant Inspections	1,906
TOTAL	21,895
2015 CIVIL PENALTIES AND VIOLATIONS	
Civil Penalties	\$6,112,931
Violations Resolved with Penalties	441
AIR POLLUTION COMPLAINT CATEGORIES	
TOTAL COMPLAINTS	
Odor	38.5%
Wood Smoke	31.4%
Smoking Vehicle	24.3%
Dust	2.8%
Asbestos	1.1%
Miscellaneous Categories (including Smoke, Outdoor Burning and Gas Stations)	1.8%
SOURCE TEST ACTIVITY	
<i>2015 Number of Source Tests</i>	
Refinery Source Tests	152
Compliance Rate	98.0%
Title V Facility Source Tests (Excluding Refineries)	146
Compliance Rate	98.6%
Gasoline Cargo Tank Source Tests	354
Compliance Rate	97.2%
Gasoline-Dispensing Facility Source Tests	90
Compliance Rate	86.7%
Other Miscellaneous Source Tests	16,130
Compliance Rate	99.7%
TOTAL SOURCE TESTS	16,130
TOTAL VIOLATIONS	68
COMPLIANCE RATE	99.6%
LABORATORY	
<i>2015 Samples Analyzed in the Lab</i>	
PM*	3,280
Toxics	786
Source-oriented analyses	308
Interagency projects	7
TOTAL	4,381

\*Accounts for PM10 and PM2.5 samples



Executive Management

Jack P. Broadbent  
*Executive Officer*  
*Air Pollution Control Officer*

Brian C. Bunger  
*District Counsel*

Jean Roggenkamp  
*Deputy Executive Officer*

Damian Breen  
Jeff McKay  
*Deputy Air Pollution Control Officers*

Maricela Martinez  
*Manager, Executive Operations*

Division Directors  
and Officers

John Chiladakis  
*Information Services*

Lisa F. Fasano  
*Communications*

Henry Hilken  
*Planning and Climate Protection*

Wayne Kino  
*Compliance and Enforcement*

Rex Sanders  
*Executive and Administrative  
Resources*

Eric Stevenson  
*Measurements, Meteorology  
and Rules*

Jaime Williams  
*Engineering and  
Information Technology*

Current Board Members

ALAMEDA COUNTY  
Tom Bates  
Rebecca Kaplan  
Scott Haggerty  
Nate Miley

CONTRA COSTA COUNTY  
John Gioia  
David E. Hudson, *Secretary*  
Karen Mitchoff  
Mark Ross

MARIN COUNTY  
Katie Rice

NAPA COUNTY  
Brad Wagenknecht

SAN FRANCISCO COUNTY  
John Avalos  
Edwin M. Lee  
Eric Mar, *Chair*

SAN MATEO COUNTY  
David Canepa  
Carole Groom  
Warren Slocum

SANTA CLARA COUNTY  
Cindy Chavez  
Liz Kniss, *Vice-Chair*  
Jan Pepper  
Rod G. Sinks

SOLANO COUNTY  
Jim Spering  
Osby Davis

SONOMA COUNTY  
Teresa Barrett  
Shirlee Zane

Contact Information

AIR POLLUTION COMPLAINTS  
*800.334.ODOR (6367)*

AIR QUALITY INFO  
*800.HELP.AIR (435.7247)*  
*Daily Air Quality Forecasts,*  
*Spare the Air Alerts,*  
*Agricultural Burn Days*

COMPLIANCE ASSISTANCE  
*415.749.4999*

ENGINEERING SERVICES  
*415.749.4990*

GENERAL BUSINESS  
*415.749.5000*

PUBLIC INFORMATION  
*415.749.4900*

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*800.EXHAUST (394.2878)*  
*www.SmokingVehicleHelp.org*

WINTER SPARE THE AIR ALERTS  
*877.4NO.BURN (466.2876)*

WEBSITES  
*www.baaqmd.gov*  
*www.sparetheair.org*  
*www.twitter.com/@sparetheair*  
*www.facebook.com/sparetheair*  
*www.twitter.com/@airdistrict*  
*www.facebook.com/bayareaairdistrict*

SOCIAL MEDIA







## BAY AREA AIR QUALITY MANAGEMENT DISTRICT

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*Printer:* Watermark Press  
*Printed on acid-free, elemental chlorine-free,  
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*The Bay Area Air Quality Management District does not discriminate on the basis of race, national origin, ethnic group identification, ancestry, religion, age, sex, sexual orientation, gender identity, gender expression, color, genetic information, medical condition, mental or physical disability, or any other attribute or belief protected by law.*

*It is the Air District's policy to provide fair and equal access to the benefits of a program or activity that we administer. The Air District will not tolerate discrimination against any person(s) seeking to participate in, or receive the benefits of, any program or activity offered or conducted by us. Members of the public who believe they or others were unlawfully denied full and equal access to an Air District program or activity may file a discrimination complaint with us under this policy. This non-discrimination policy also applies to other people or entities affiliated with the Air District, including contractors or grantees that we utilize to provide benefits and services to members of the public.*

*Auxiliary aids and services including, for example, qualified interpreters and/or listening devices to individuals who are deaf or hard of hearing, and to other individuals as necessary to ensure effective communication or an equal opportunity to participate fully in the benefits, activities, programs and services will be provided by the Air District in a timely manner and in such a way as to protect the privacy and independence of the individual. Please contact the Non-Discrimination Coordinator identified below at least three days in advance of a meeting so that arrangements can be made accordingly.*

*If you believe discrimination has occurred with respect to one of our programs or activities, you may contact the Non-Discrimination Coordinator identified below or visit our website at [www.baaqmd.gov/accessibility](http://www.baaqmd.gov/accessibility) to learn how and where to file a complaint of discrimination.*

*Questions regarding this policy should be directed to the Air District Non-Discrimination Coordinator, Rex Sanders, at 415.749.4951 or by email at [rsanders@baaqmd.gov](mailto:rsanders@baaqmd.gov).*